


ONKYO® SERVICE MANUAL**CASSETTE TAPE DECK****MODEL K-185II****ONKYO -00984****Black model/Silver model**

UP, UPT	230V AC, 50Hz
UDT	120V AC, 60Hz

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK  ON THE SCHEMATIC DIAGRAM AND IN THE PARTS LIST ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE THESE COMPONENTS WITH ONKYO PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL.

MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

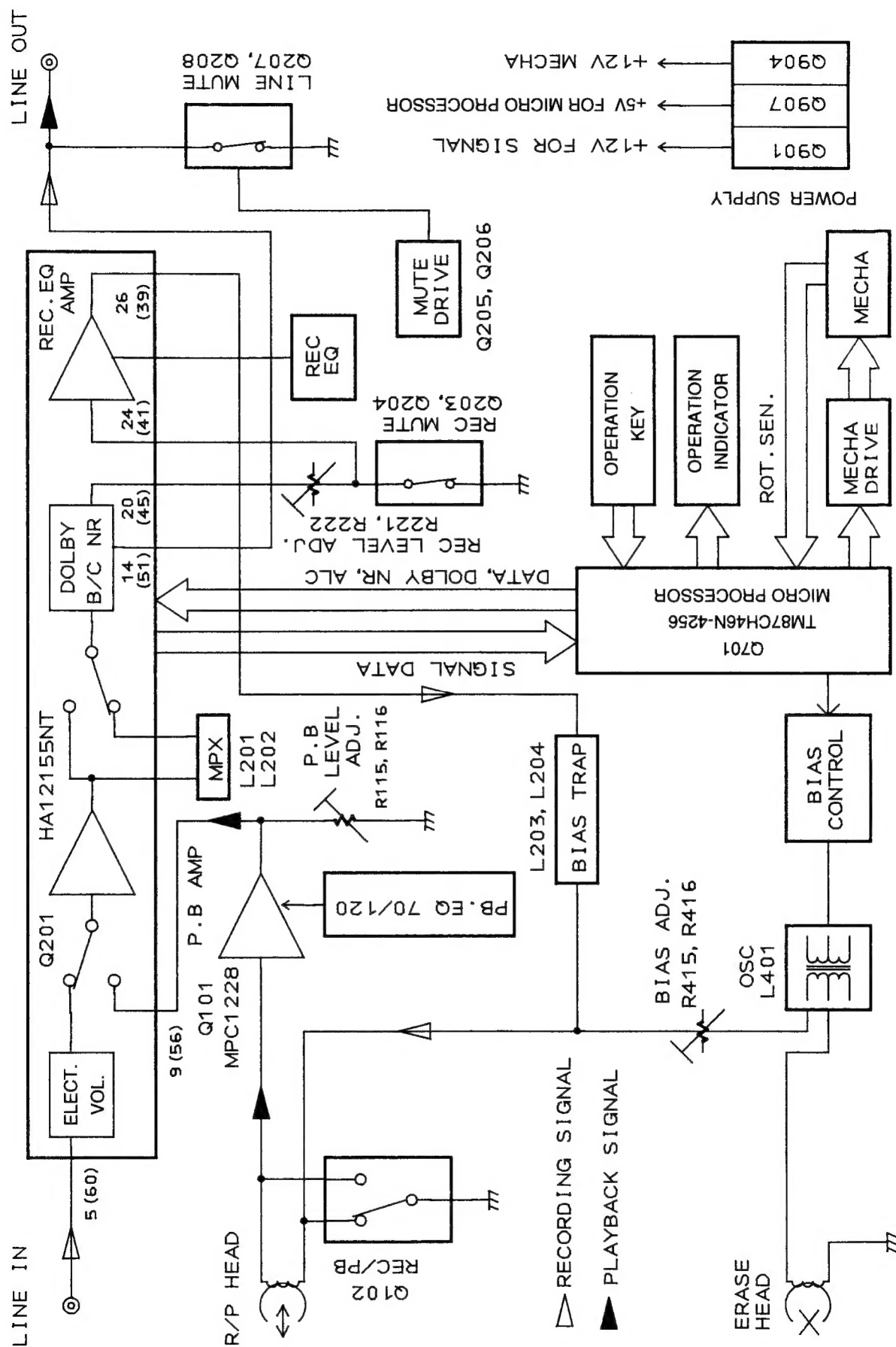
SPECIFICATIONS

Track Format:	4-track, 2-channels
Erasure System:	AC erase
Tape Speed:	4.8 cm/sec. (1-7/8 i.p.s.)
Wow and Flutter:	0.07 % (WRMS)
Frequency Response:	20 — 15,000 Hz (Normal) (30 — 14,000 Hz \pm 3 dB) 20 — 16,000 Hz (High) (30 — 15,000 Hz \pm 3 dB) 20 — 17,000 Hz (Metal) (30 — 16,000 Hz \pm 3 dB)
S/N Ratio:	Dolby NR off: 58 dB (metal position tape) A noise reduction of 10 dB above 5 kHz and 5 dB at 1 kHz is possible with Dolby B NR. A noise reduction of 20 dB at 5 kHz is possible with Dolby C NR.
Input Jacks:	Line IN: 2 Input sensitivity: 600 mV Input impedance: 50 kohms
Outputs:	Line OUT: 2 Standard output level: 500 mV (0 dB) Optimum load impedance: over 50 kohms
Motors:	DC servo motor \times 1
Heads:	REC/PB: 1 ERASE: 1
Power Supply:	AC 230V, 50 Hz
Power Consumption:	11 watts
Dimensions:	185(W) \times 131(H) \times 294(D) mm (7-5/16" \times 5-1/8" \times 11-9/16")
Weight:	2.9 kg. (6.4 lbs.)

Specifications and external appearance are subject to change without notice because of product improvements.

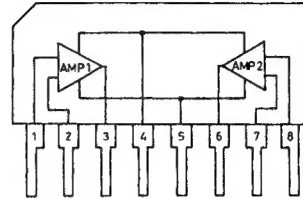
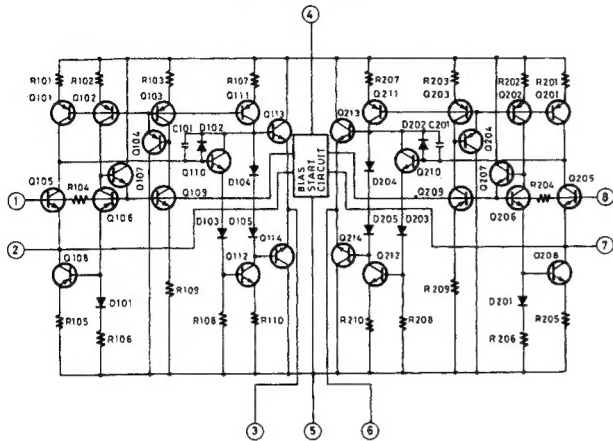
ONKYO®
AUDIO COMPONENTS

BLOCK DIAGRAM



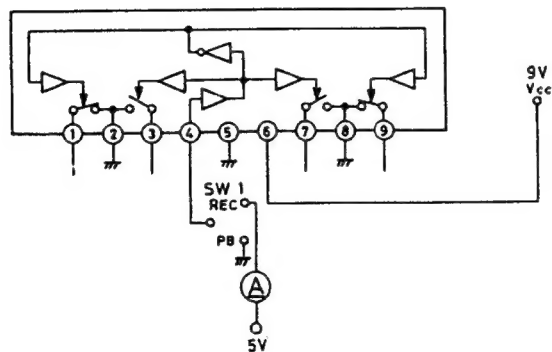
IC BLOCK DIAGRAM

μ PC1228HA

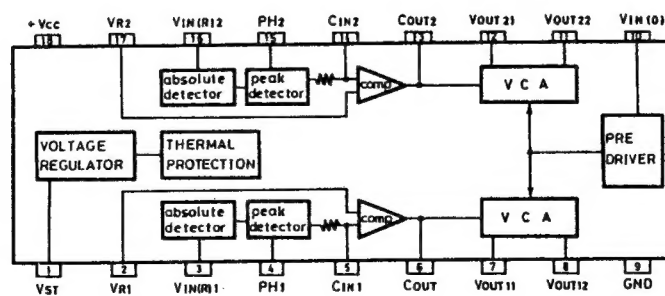


NO.	
1	INPUT 1
2	N. F. B. 1
3	OUTPUT 1
4	+Vcc
5	GND
6	OUTPUT 2
7	N. F. B. 2
8	INPUT 2

μ PC1330HA (REC/PB)



μ PC1297CA (HX PRO)



ADJUSTMENT PROCEDURES

PRECAUTION

- Before adjustment, clean the following parts with an alcohol moistend swab.
*record/playback head *erase head
*pinch roller *capstan
- Do not use magnetized screwdriver for adjustment.
- Demagnetized record/playback head with a lead demagnetizer.

TEST EQUIPMENT/TOOL REQUIRED

Audio oscillator
Digital frequency counter
Oscilloscope
Attenuater
AC voltmeter
Non-magnetic screwdriver
Test tapes
TCC-153 : 10kHz, -15dB
MTT-111N : 3kHz, -10dB
MTT-150 : Dolby level calibration
400Hz, tone 200nWb/m

	Item	Connection of instrument	Line output freq/level	Test tape	Mode	Output indicator	Adjustment point	Adjustment	Remarks
1	Tape speed	Frequency counter to LINE output terminal or P201		MTT-111N	PB	Frequency counter	R723	3,000Hz±10Hz	
2	Head azimuth	AC voltmeter and oscilloscope to P201		TCC-153	PB	AC voltmeter	fig.1	Maximum level & same phase at channels L and R	fig.2
3	Playback level	AC voltmeter to terminals P201		MTT-150	PB	AC voltmeter	R115 (L.ch) R116 (R.ch)	300mV (RMS)	
4	Bias frequency	Frequency counter to E Head lead line			REC	Frequency counter	L401	107kHz	
5	Bias current	fig.3	1kHz, 35mV & 12.5kHz 35mV	NORMAL TAPE	REC/ PB	AC voltmeter	R415 (L.ch) R416 (R.ch)	1kHz : 12.5kHz 0dB : +1.0dB	
6	Recording level	fig.3	1kHz 350mV	NORMAL TAPE	REC/ PB	AC voltmeter	R221 (L.ch) R222 (R.ch)	Same level at REC/PB	

Blank tapes

NORMAL UD-1 C-90
HIGH XL-II C-90
METAL XS C-90

PLAY torque 30~70g/cm
FF.REW torque 80~180g/cm
Back tension 6~12g/cm

Head azimuth screw(REV) Head azimuth screw(FWD)

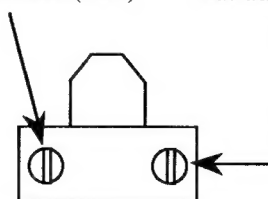


Fig.1 R/P Head

ADJUSTMENT POINT

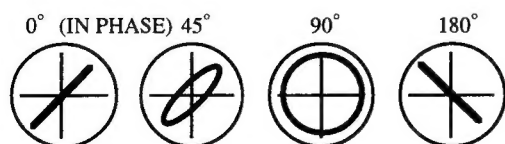
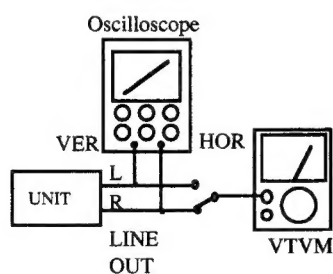
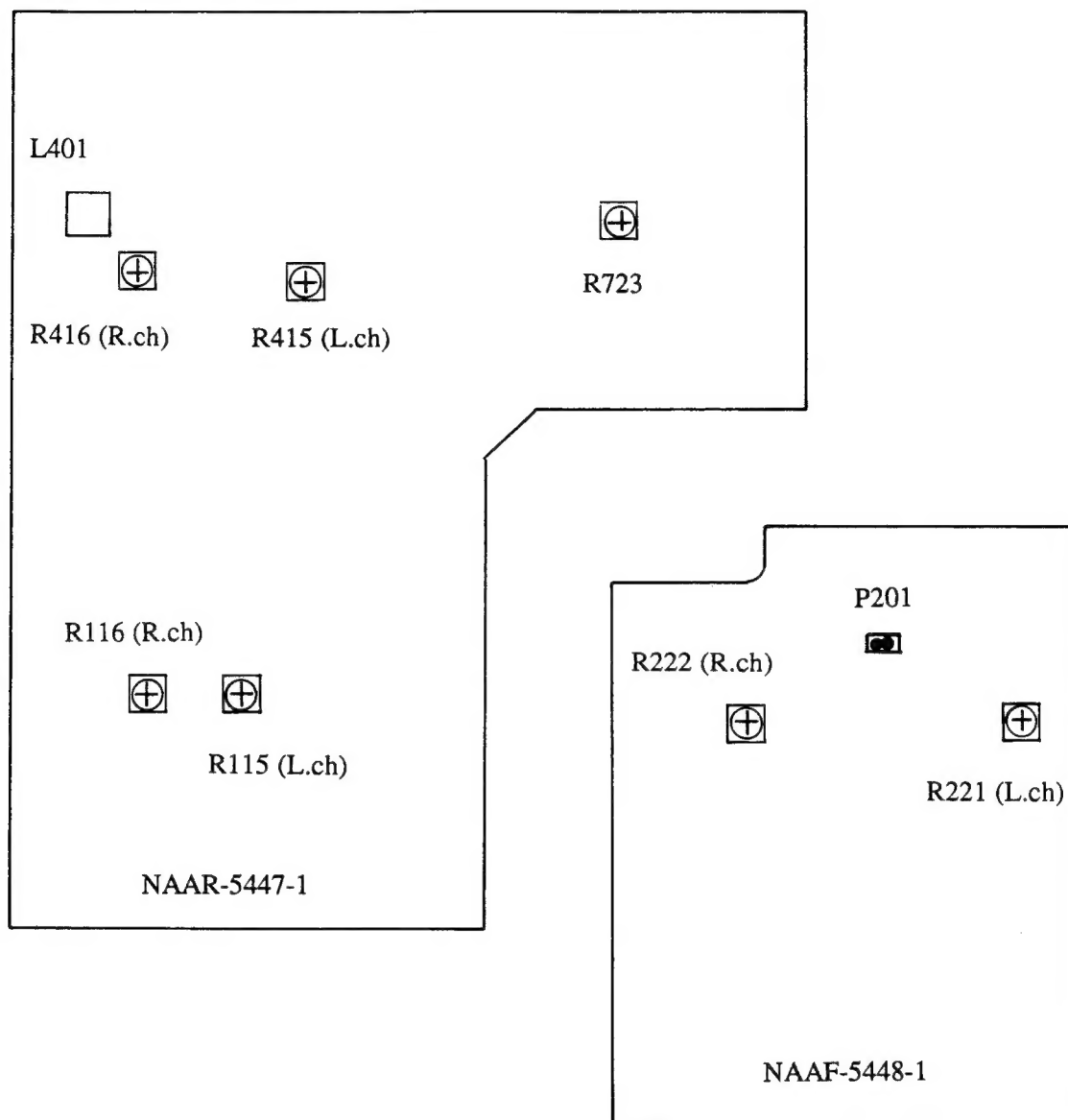


Fig.2 Confirming phase relationship

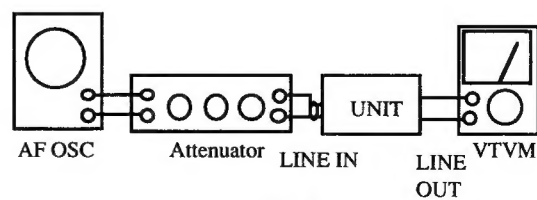
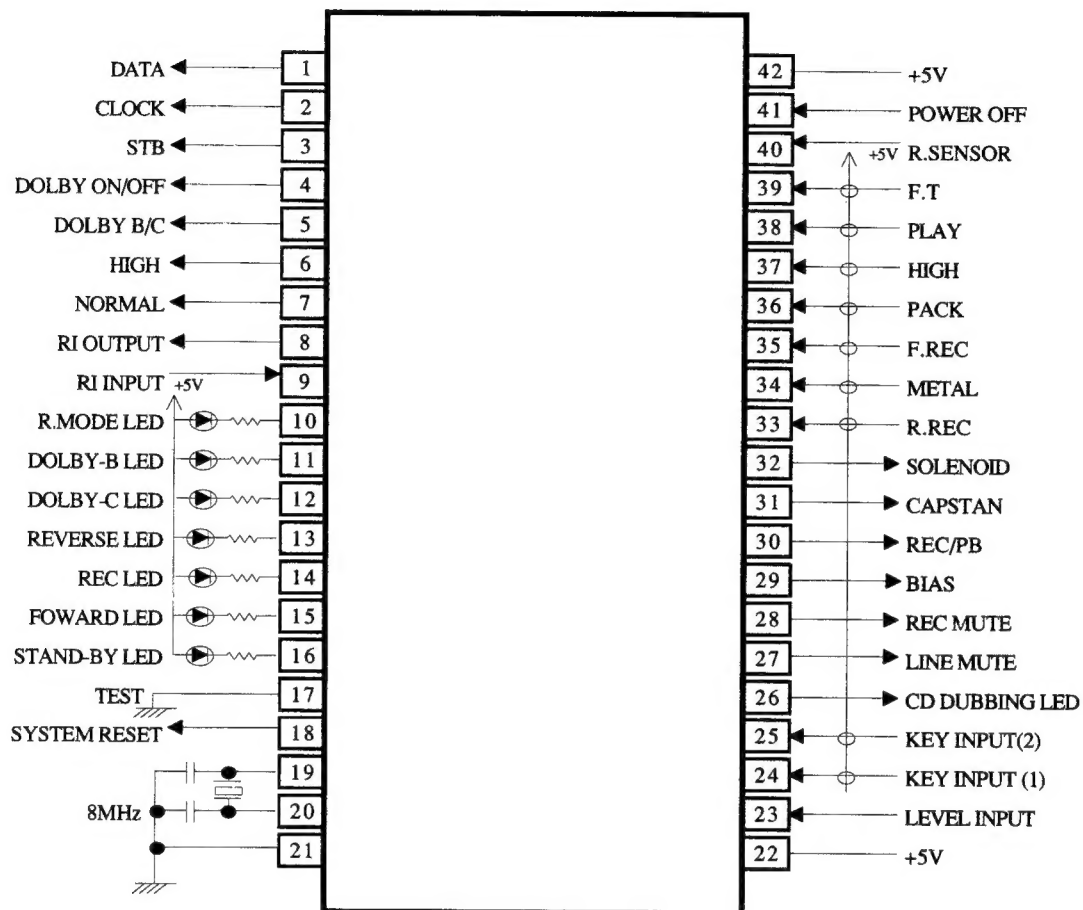


Fig. 3

MICROPROCESSOR CONNECTION DIAGRAM

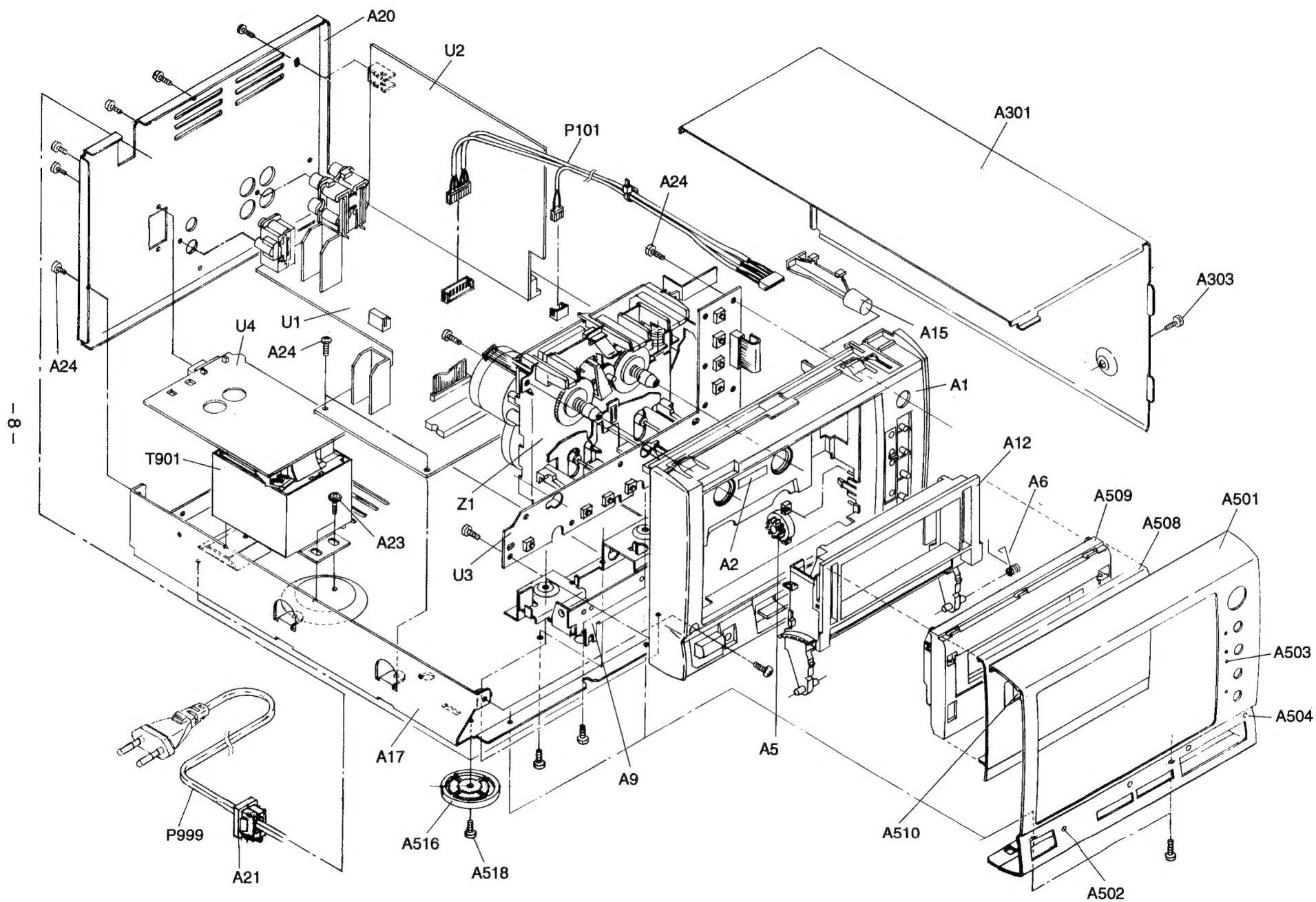
TMP 87CH46N-4256



MICROPROCESSOR TERMINAL DESCRIPTION

Port NO.	Name	I/O	Description
1	DOLBY DATA	O	Dolby IC serial port output
2	DOLBY CLOCK	O	
3	DOLBY STB	O	
4	DOLBY ON/OFF	O	Dolby change-over output
5	DOLBY B/C	O	
6	HIGH	O	Recording/Playback equalizer change-over output
7	NORMAL	O	
8	RI OUTPUT	O	System code output, Active L
9	RI INPUT	I	System code input, Active L
10	R.MODE LED	O	Play mode LED control output, Active L
11	DOLBY B LED	O	Dolby B LED control output, Active L
12	DOLBY C LED	O	Dolby C LED control output, Active L
13	REVERSE LED	O	Reverse LED control output, Active L
14	REC LED	O	REC LED control output, Active L
15	FORWARD LED	O	FORWARD LED control output, Active L
16	STAND BY LED	O	STAND BY LED control output, Active L
17	TEST		Test terminal
18	RESET	I	System reset input
19	XIN		High frequency resonator connecting terminal
20	XOUT		Connect the 8MHz ceramic resonator.
21	VSS(VASS)		Power supply, Power supply for A/D converter
22	VAREF		Power supply for A/D converter
23	LEVEL INPUT	I	Level input
24	KEY INPUT(1)	I	Key input
25	KEY INPUT(2)	I	Key input
26	CD DUBBING LED	O	CD DUBBING LED control output, Active H
27	LINE MUTE	O	Line muting output, Active H
28	REC MUTE	O	Recording muting output, Active H
29	BIAS	O	Bias control output, Active H
30	REC/PB	O	Recording/Playback change-over output
31	CAPSTAN	O	Capstan motor control output
32	SOLENOID	O	Solenoid control output
33	R.REC SWITCH	I	Mechanism switch input
34	METAL SWITCH	I	
35	F.REC SWITCH	I	
36	PACK SWITCH	I	
37	HIGH SWITCH	I	
38	PLAY SWITCH	I	
39	F.T SWITCH		Test terminal
40	R.SENSOR		Reel rotation sensor
41	POWER OFF		Power off detection
42	VDD		Power supply

CHASSIS-EXPLODED VIEW



CHASSIS-EXPLODED VIEW PARTS LIST

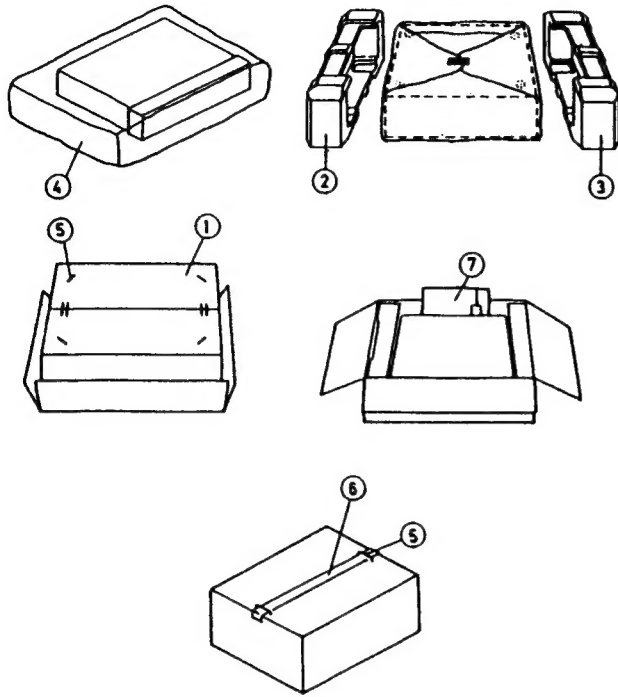
REF NO.	PART NO.	DESCRIPTION
A1	27110867A	Front bracket AS
	27110979	Front bracket AS <S>
A2	27262519	Plat(T-1)
A5	28400282	Damper
A6	27180477A	Spring(A)
A9	27130748A	Bracket(F)
A12	27301792AY	Cassette frame AS
A13	27180272A	Spring
A15	28325128	Knob(EJ)
	28325129	Knob(EJ) <S>
A17	27100299	Chassis
A20	27122312	Rear panel <P>
	27122313	Rear panel <D>
A21	△ 27300750	Cord bushing
A23	830440089	4TTC+8C(BC), Screw
A24	838130088	3TTB+8B, Screw
A301	28184591	Top cover
	28184592	Top cover <S>
A303	838430088	3TTB+8B(BC), Screw
	838230088	3TTB+8B(NI), Screw <S>
A501	27211896	Front panel
	27211895	Front panel <S>
A502	28198817	Facet(POW)
A503	28198818	Facet(DOL)
A504	28198819	Facet(PLAY)
A506	28135241Y	Badge
A508	27301867A-1	Cassette lid
	27301868A-1	Cassette lid <S>
A509	27301869	Cassette lid(Base)
	27301870	Cassette lid(Base) <S>
A510	28191716A	Clear plate
A516	27175252-1B	Leg AS
A518	838130088	3TTB+8B, Screw

REF NO.	PART NO.	DESCRIPTION
P101	2009990315	Socket AS
P999	△ 253193HIT	AS-CEE, Power supply cord <P>
	△ 253192HIT	AS-UC-6, Power supply cor <D>
T901	△ 2301104	NPT-1239P, Power Transformer <P>
	△ 2301153	NPT-1239D, Power Transformer <D>
U1	1N220547-1	NAAR-5447-1, Main circuit PC board ass'y
U2	1N220548-1	NAAF-5448-1, Dolby circuit PC board ass'y
U3	1N220549-1	NASW-5449-1, Switch PC board ass'y
U4	1N220550-1A	NAPS-5450-1A, Power supply PC board ass'y <P>
	1N220550-1	NAPS-5450-1, Power supply PC board ass'y <D>
Z1	244187B	NDM-178, Cassette deck mechanism
F901	△ 252075 or	2.5A-SE-EAK, Fuse or <P>
	252075CC	2.5A-SE-EAK, Fuse

NOTE: : Black model only
 <S> : Silver model only
 <P> : 230V model only
 <D> : 120V model only

NOTE: THE COMPONENTS IDENTIFIED BY MARK △ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

PACKING VIEW

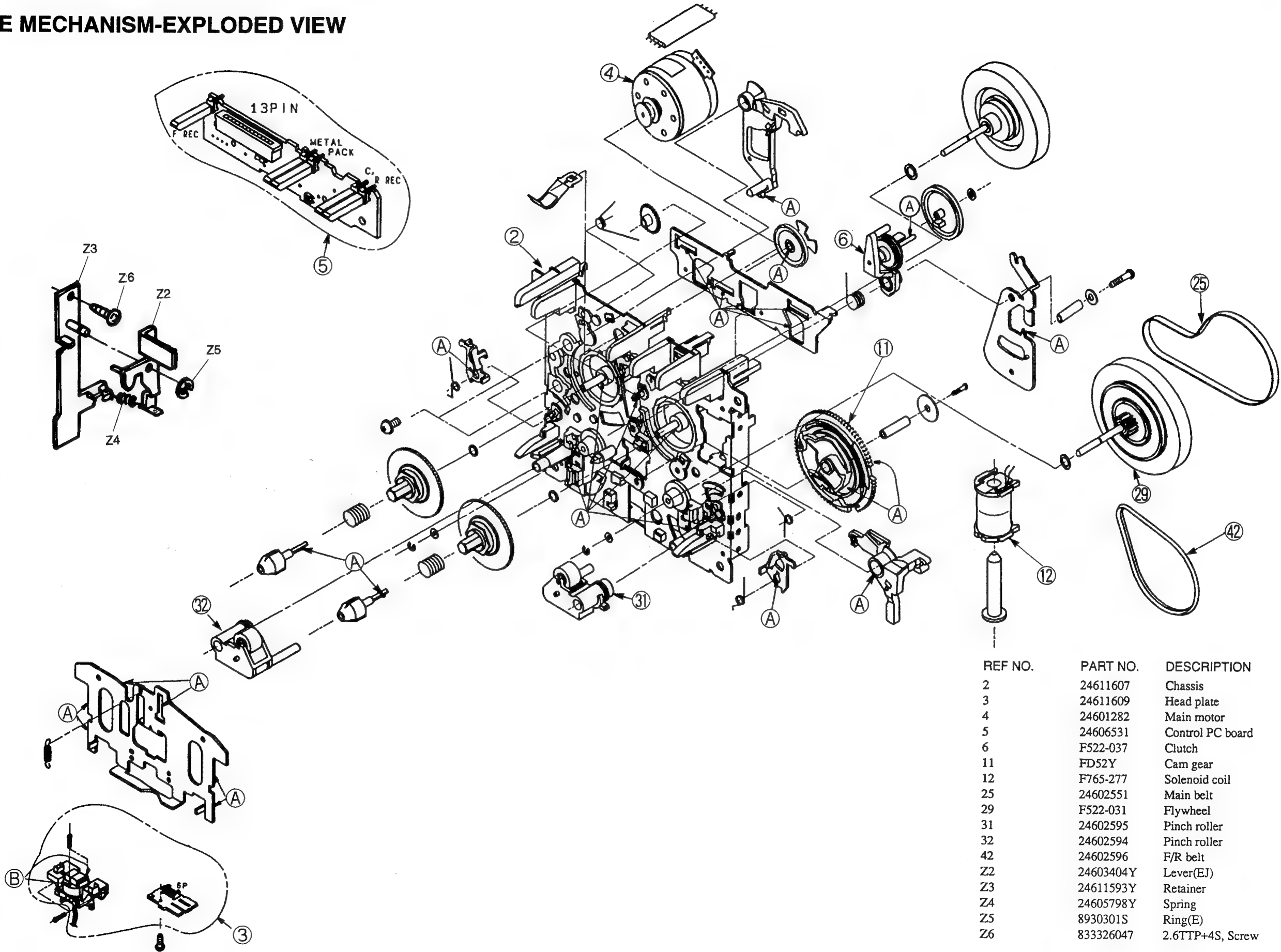


PARTS LIST

REF NO.	PART NO.	DESCRIPTION
1	29053135	Carton
	29053134	Carton <S>
2	29091688B	Pad(F)
3	29091689B	Pad(B)
4	29100123C	550×430, Poly bag
5	282301	Staple
6	29110071	PP tape
	29110069	Fixlon tape
	29362157	Label (EAN)
	29362158	Label (EAN) <S>
	Accessary bag ass'y	
	29100097-1Y	320×250, Poly bag
	29342408	Instruction manual (E)
7	29342409	Instruction manual (U3FSI) <P>
	29342410	Instruction manual (U3GSwD) <P>
	29342411	Instruction manual (T) <T,A>
	2010326 or	Pin cord or
	2010098A	Pin cord
	2010200	3.5 Mini plug

NOTE: : Black model only
 <S> : Silver model only
 <P> : European model only
 <T> : Taiwanese model only
 <A> : Asian model only

TAPE MECHANISM-EXPLODED VIEW



REF NO.	PART NO.	DESCRIPTION
2	24611607	Chassis
3	24611609	Head plate
4	24601282	Main motor
5	24606531	Control PC board
6	F522-037	Clutch
11	FD52Y	Cam gear
12	F765-277	Solenoid coil
25	24602551	Main belt
29	F522-031	Flywheel
31	24602595	Pinch roller
32	24602594	Pinch roller
42	24602596	F/R belt
Z2	24603404Y	Lever(EJ)
Z3	24611593Y	Retainer
Z4	24605798Y	Spring
Z5	8930301S	Ring(E)
Z6	833326047	2.6TTP+4S, Screw

PRINTED CIRCUIT BOARD VIEW FROM BOTTOM SIDE

Main circuit PC board ass'y (NAAR-5447-1)

CIRCUIT NO.	PART NO.	DESCRIPTION	CIRCUIT NO.	PART NO.	DESCRIPTION
			D908,D910	224451203	MTZ12C, Zener
	ICs			Coils	
Q101	222905	μ PC1228HA			
Q102	22240147	μ PC1330HA	L401	231223	NLO-2064, OSC COIL
Q407	222959	μ PC1297CA	L403,L404	231218	NCH-4453, CHOKE COIL
Q701	22240887	TMP87CH46N-4256	X701	3010190	CST8.00MTW, CERA LOCK
	Transistors			Capacitors	
Q103,Q104	221299 or 2213600	DTC114TS or RN1211	C101,C102	374726814	ECQ-B50V, 681J, TF C
Q205,Q206	2213590 or 2213090	RN2207 or DTA114YS	C103,C104	393380227	CE04W50V, 2.2M, VX C
Q207,Q208	2211705 or 2211706	2SD655-E or 2SD655-F	C105,C106	393341017	CE04W16V, 100M, VX C
Q401	2211504	2SA950-Y	C107C108	374728224	ECQ-B50V, 822J, TF C
Q402	221281 or 2213570	DTC114YS or RN1207	C109,C110	393341007	CE04W16V, 10M, VX C
Q403,Q404	2201883	2SC1213-C	C111,C112	374721834	ECQ-B50V, 183J, TF C
Q405,Q406	221281 or 2213570	DTC114YS or RN1207	C113	393341027	CE04W16V, 1000M, VX C
Q702,Q704	2213590 or 2213090	RN2207 or DTA114YS	C114,C251	374722735	ECQ-V50V, 273K, TF C
Q703,Q705	221281 or 2213570	DTC114YS or RN1207	C401	393322217	CE04W6.3V, 220M, VX C
Q706,Q708	2212853 or 2212855	2SB1068-K or 2SB1068-U	C402	371121034	MY92-50V, 103J, MY C
Q707	221281 or 2213570	DTC114YS or RN1207	C403,C404	371123324	MY92-50V, 332J, MY C
Q709	2213354 or 2213355	2SA933S-R or 2SA933S-S	C405	354744709	CE04W16V, 47M, ELECT C
Q710,Q711	221281 or 2213570	DTC114YS or RN1207	C406	370138224	APS100V, 822J, APS C
Q901	2202724	2SB1569A-E	C408	354741019	CE04W16V, 100M, ELECT C
Q902	2213284 or 2213285	2SC1740S-R or 2SC1740S-S	C409,C410	370131514	APS100V, 151J, APS C
Q904	2202724	2SB1569A-E	C411,C412	370131014	APS100V, 101J, APS C
Q905	2213284 or 2213285	2SC1740S-R or 2SC1740S-S	C413-C416	371122734	MY92-50V, 273J, MY C
Q907	2202705 or 2202706	2SD2394-E or 2SD2394-F	C417,C418	371121034	MY92-50V, 103J, MY C
	Diodes		C421,C422	354741009	CE04W16V, 10M, ELECT C
D701,D703	223222 or 223205	WG713A or 1SS270A	C701,C703	354741009	CE04W16V, 10M, ELECT C
D702	224450562	MTZ5.6B, Zener	C707	354780109	CE04W50V, 1M, ELECT C
D704	223222 or 223205	WG713A or 1SS270A	C708,C710	354741009	CE04W16V, 10M, ELECT C
D901,D902	22380260	RL1N4003	C709	354780479	CE04W50V, 4.7M, ELECT C
D905,D906	223222 or 223205	WG713A or 1SS270A	C903	374722734	ECQ-V50V, 273J, TF C
D907,D909	224450562	MTZ5.6B, Zener	C904	393354727	CE04W25V, 4700M, VX C
			C905,C908	354741009	CE04W16V, 10M, ELECT C
			C906	393342217	CE04W16V, 220M, VX C
			C907,C923	393341027	CE04W16V, 1000M, VX C
			C909	393324717	CE04W6.3V, 470M, VX C
			C910	393322217	CE04W6.3V, 220M, VX C
			C921	354741019	CE04W16V, 100M, ELECT C
			C922	354742219	CE04W16V, 220M, ELECT C
				Resistors	
			R115,R116	5210265	N06HR, 50KBC, TRIM R
			R117	443521214	RS1/2WBJ, 120, METAL O R
			R403,R404	453530824	RNU1/2WCJ, 8.2, METAL R
			R415,R416	5210262	N06HR, 10KBC, TRIM R
			R723	5210258	N06HR, 1KBC, TRIM R
			R903	453533994	RNU1/2WCJ, 0.39, METAL R
			R904	453530824	RNU1/2WCJ, 8.2, METAL R
			R911,R912	453534794	RNU1/2WCJ, 0.47, METAL R
			R917	453530154	RNU1/2WCJ, 1.5, METAL R

CIRCUIT NO.	PART NO.	DESCRIPTION
	Plugs, Sockets	
P101	25055136	NPLG-6P120, P PLUG
P102B	25055709	NPLG-13P665, P PLUG
P103B	25055772	NPLG-10P728, P PLUG
P202	25045338	NPJ-4PDBL189, PIN JACK
P401	25055132	NPLG-2P116, P PLUG
P701	25045330	NPJ-2PDBL184, JACK
JL705A	25055633	NPLG-12P595, WIRE TRAP
JL906A	25050267	NSCT-3P95, WIRE TRAP

Dolby circuit PC board ass'y (NAAR-5448-1)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q201	22240544	HA12155NT
	Transistors	
Q203,Q204	221299 or 2213600	DTC114TS or RN1211
	Diodes	
D201,D202	223222 or 223205	WG713A or 1SS270A
	Coils	
L201,L202	233436	NMC-6081, MPX COIL
L203,L204	231085	NCH-2133, CHOKE COIL
	Capacitors	
C201-C204	393380227	CE04W50V, 2.2M, VX C
C205-C207	393380107	CE04W50V, 1M, VX C
C209-C214	374722224	ECQ-B50V, 222J, TF C
C215-C218	374721044	ECQ-V50V, 104J, TF C
C219,C220	393341007	CE04W16V, 10M, VX C
C221,C222	393380107	CE04W50V, 1M, VX C
C223,C224	374721044	ECQ-V50V, 104J, TF C
C225,C226	354782299	CE04W50V, 0.22M, ELECT C
C227,C228	393380227	CE04W50V, 2.2M, VX C
C229,C230	393341007	CE04W16V, 10M, VX C
C233,C234	393341007	CE04W16V, 10M, VX C
C238	391944717	CE04W16V, 470M, RA2 C
	Resistors	
R221	5210263	N06HR, 20KBC, TRIM R
R222	5210263	N06HR, 20KBC, TRIM R
	Plug, Sockets	
P102A	25051238	NSCT-13P1028, SOCKET
P103A	25051415	NSCT-10P1202, SOCKET
P201	25055038	NPLG-2P29, P PLUG

Switch PC board ass'y (NAAR-5449-1)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Diodes	
D705-D709	225320	SLR-342YY, LED
D710	225321	SLR-342VR, LED
D711	225320	SLR-342YY, LED
D712	225321	SLR-342VR, LED
	Switches	
S701-S712	25035652	NPS-111-S604, P SW

Power supply PC board ass'y (NAAR-5450-1)

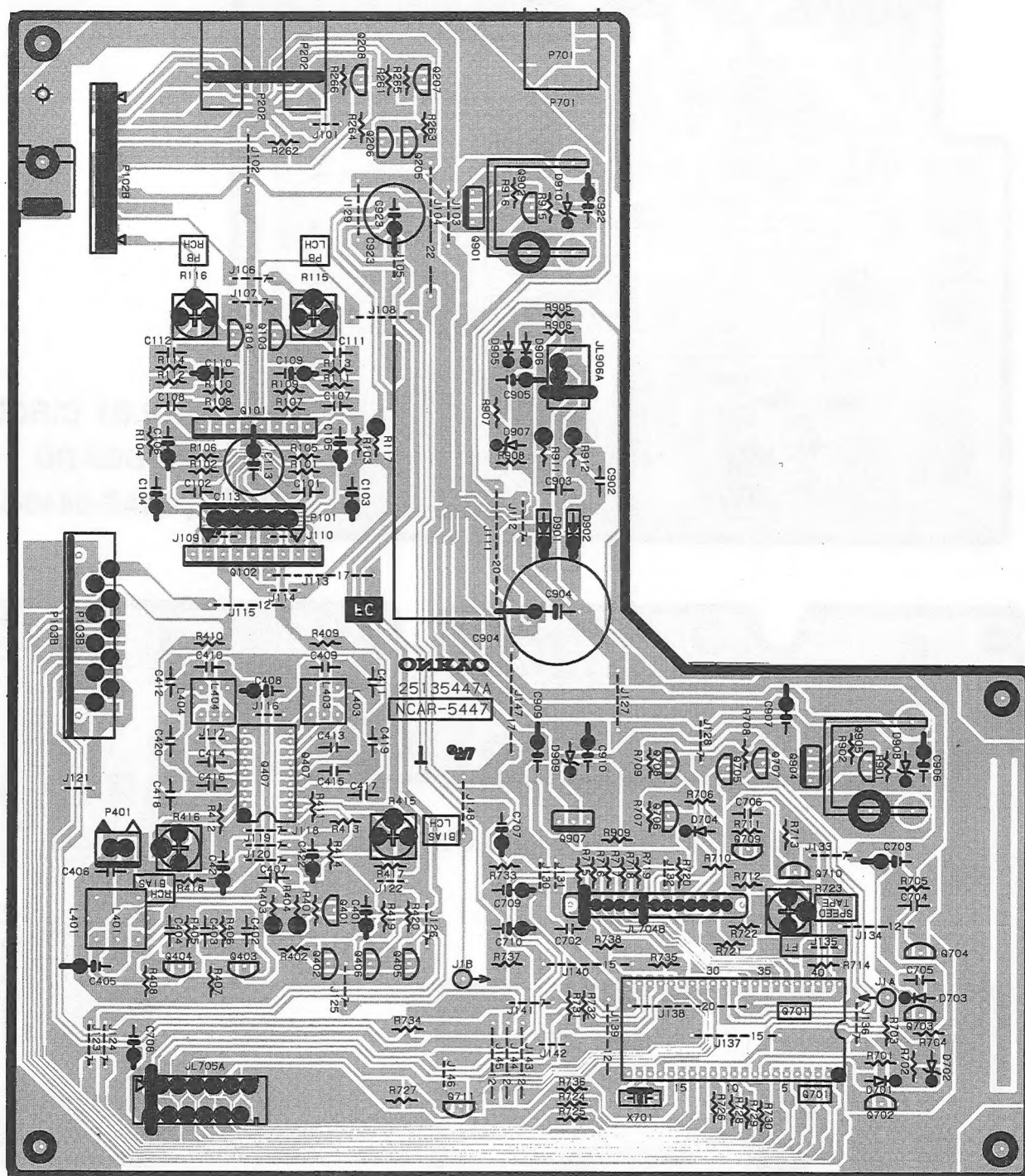
CIRCUIT NO.	PART NO.	DESCRIPTION
	Capacitor	
C901	374721044	ECQ-V50V, 104J, TF C
	Plug	
P901	Δ 25055676	NPLG-2P632, P PLUG
P902	Δ 25050684	NSCT-2P488, AC OUTLET

Power supply PC board ass'y (NAAR-5450-1A)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Capacitor	
C901	374721044	ECQ-V50V, 104J, TF C
	Plug	
P901	Δ 25055676	NPLG-2P632, P PLUG
P903	Δ 25050410	NSCT-2P235, AC OUTLET
F901	Δ 25050065	YSH403T, FUSE HOLDER

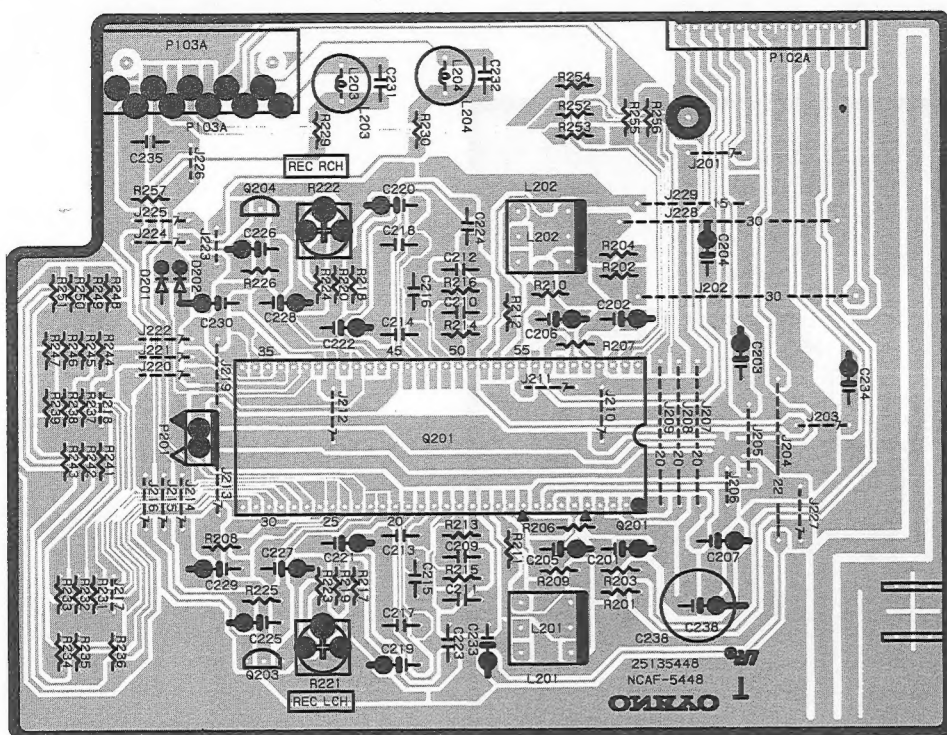
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REPLACE ONLY WITH PART NUMBER SPECIFIED.

PRINTED CIRCUIT BOARD VIEW FROM BOTTOM SIDE

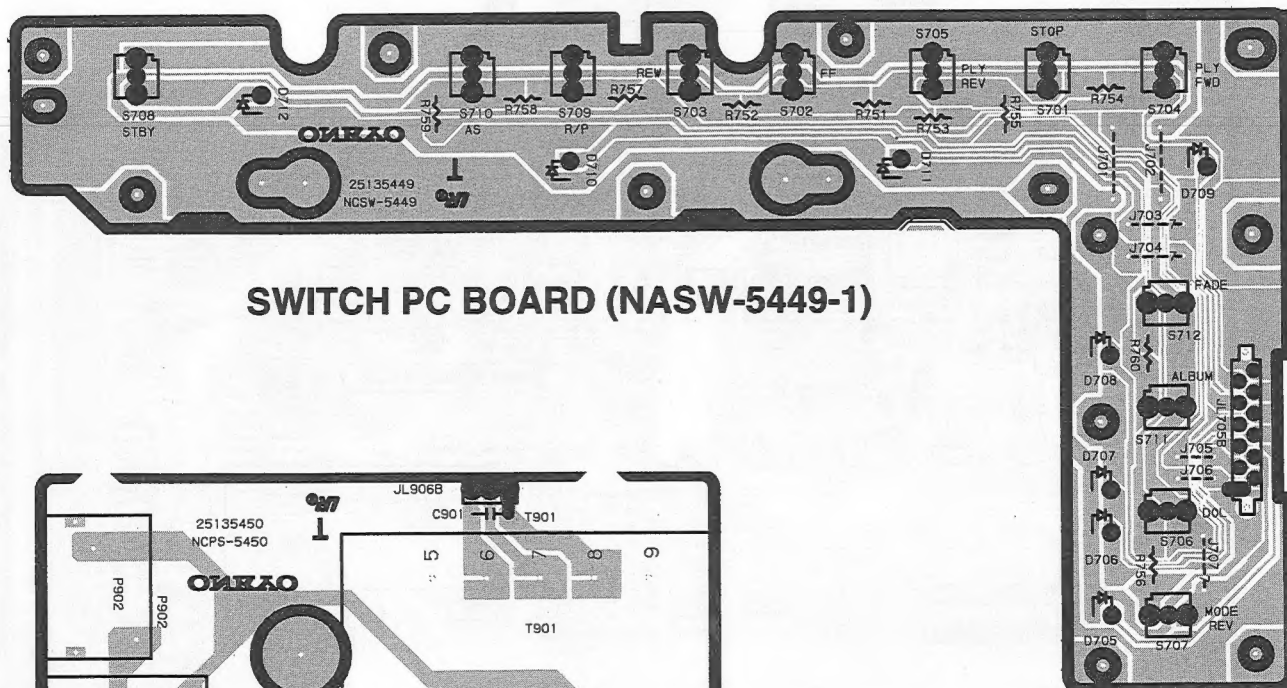


MAIN CIRCUIT PC BOARD (NAAR-5447-1)

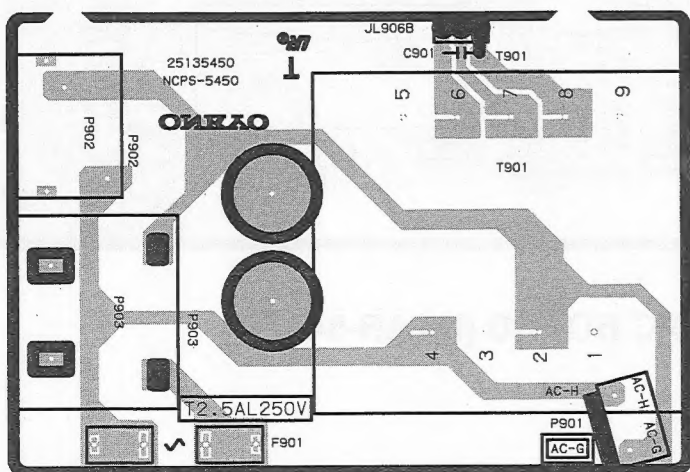
PRINTED CIRCUIT BOARD VIEW FROM BOTTOM SIDE



**DOLBY CIRCUIT
PC BOARD
(NAAF-5448-1)**



SWITCH PC BOARD (NASW-5449-1)

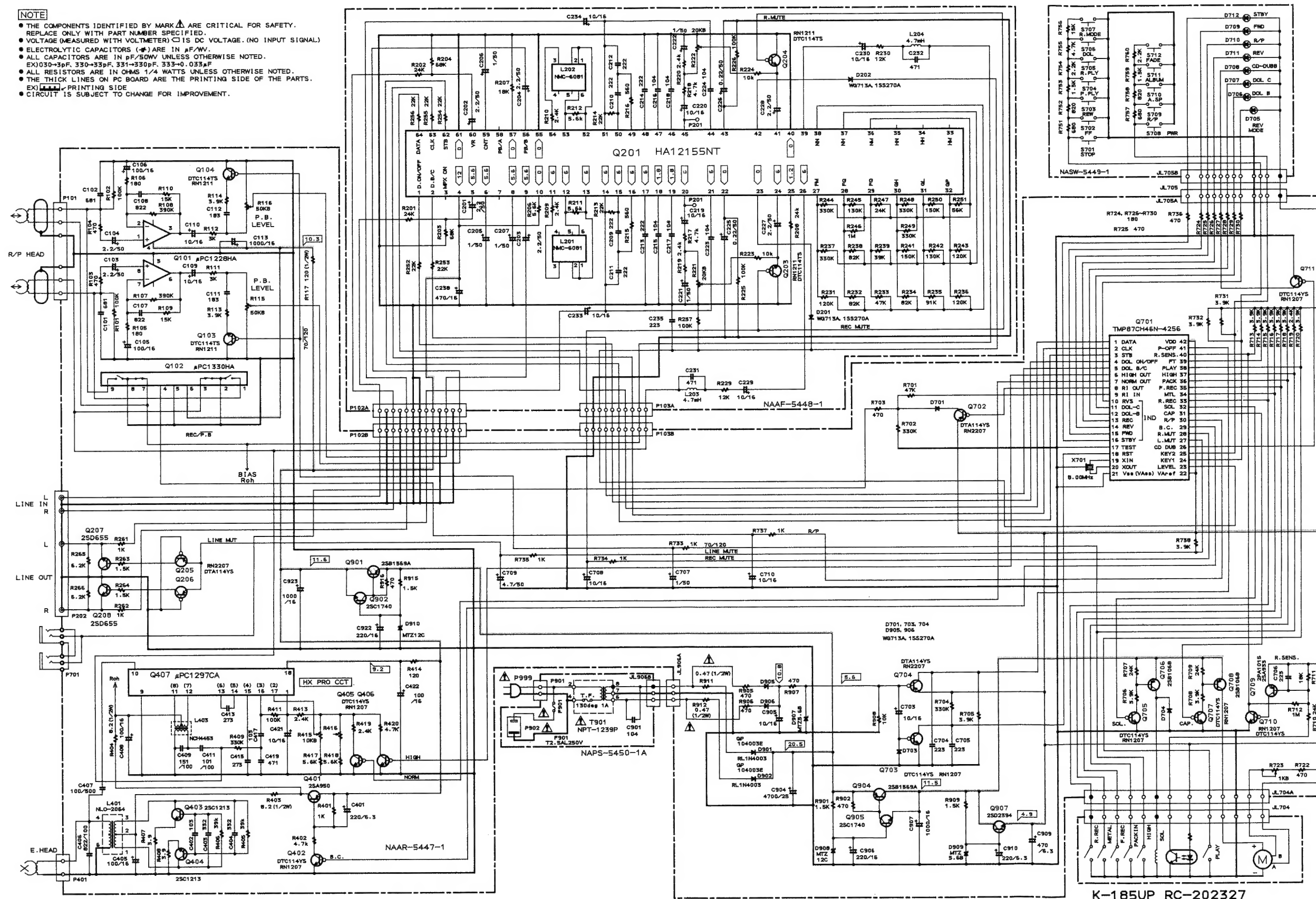


**POWER SUPPLY
PC BOARD
(NAPS-5450-1A)**

SCHEMATIC DIAGRAM

NOTE

- NOTE**
- THE COMPONENTS IDENTIFIED BY MARK **A** ARE CRITICAL FOR SAFETY.
 - REPLACE ONLY WITH PART NUMBER SPECIFIED.
 - VOLTAGE (MEASURED WITH VOLTMETER) □ IS DC VOLTAGE, (NO INPUT SIGNAL).
 - ELECTROLYTIC CAPACITORS (■) ARE IN μ F/W.
 - ALL CAPACITORS ARE IN P/F/50W UNLESS OTHERWISE NOTED.
 - EX0050-09F 330-330P, 331-330P.
 - ALL RESISTORS ARE IN OHMS 1/4 WATTS UNLESS OTHERWISE NOTED.
 - THE THICK LINES ON PC BOARD ARE THE PRINTING SIDE OF THE PARTS.
- EX-100** PRINTING SIDE
- PROPOSED IS SUBJECT TO CHANGE FOR IMPROVEMENT.



K-185UP RC-202327

ONKYO CORPORATION

International Sales Div.: 31 Sankyo-bld. 3-8-5, Asakusabashi, Taito-ku, TOKYO 111, JAPAN
TEL : 03-5820-5865 FAX : 03-5820-5869

ONKYO U.S.A. CORPORATION
200 Williams Drive, Ramsey, N.J. 07446, U.S.A.
TEL : 201-825-7950 FAX : 201-825-8150

ONKYO EUROPE ELECTRONICS GmbH
Industriestrasse 18-20, 82110 Germering, GERMANY
TEL : 089 84 93 20 FAX : 089 84 93 226

ONKYO FRANCE
Immeuble Le'Diamant, Domaine Technologique de Saclay, 4 Rue Rene Razel, 91892 SACLAY, FRANCE
TEL : (1) 69 33 1400 FAX : (1) 69 41 35 84

PART NO. 0M3561 Printed in Japan NS702